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FIG.1A

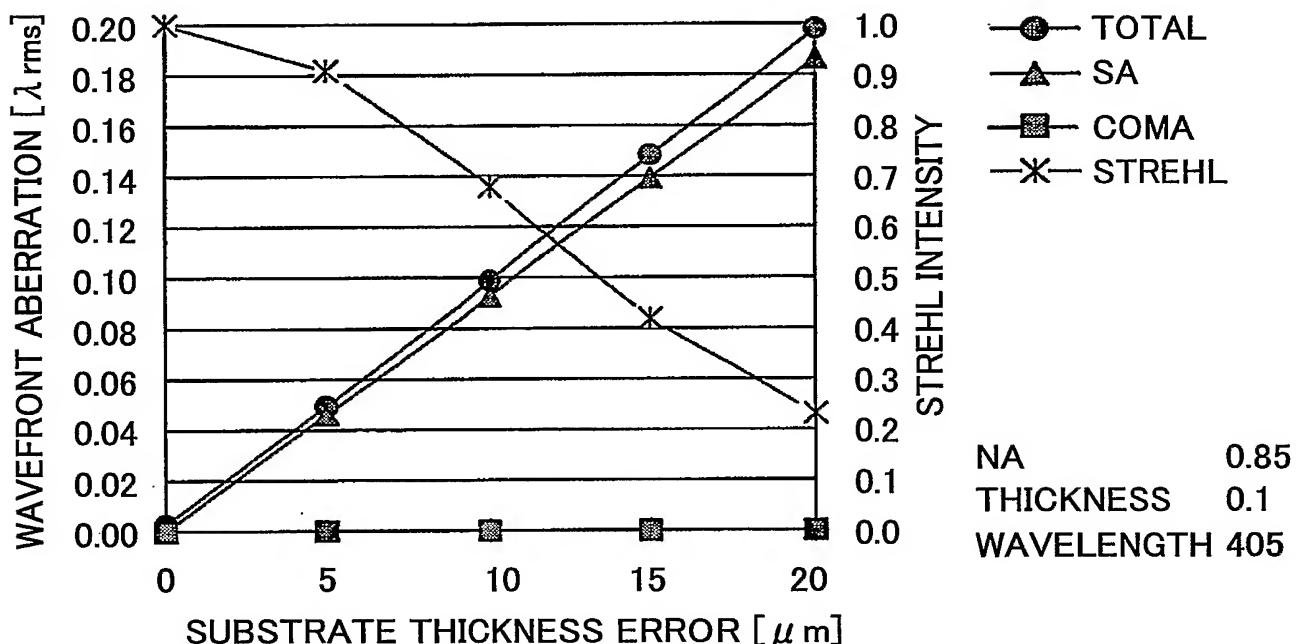
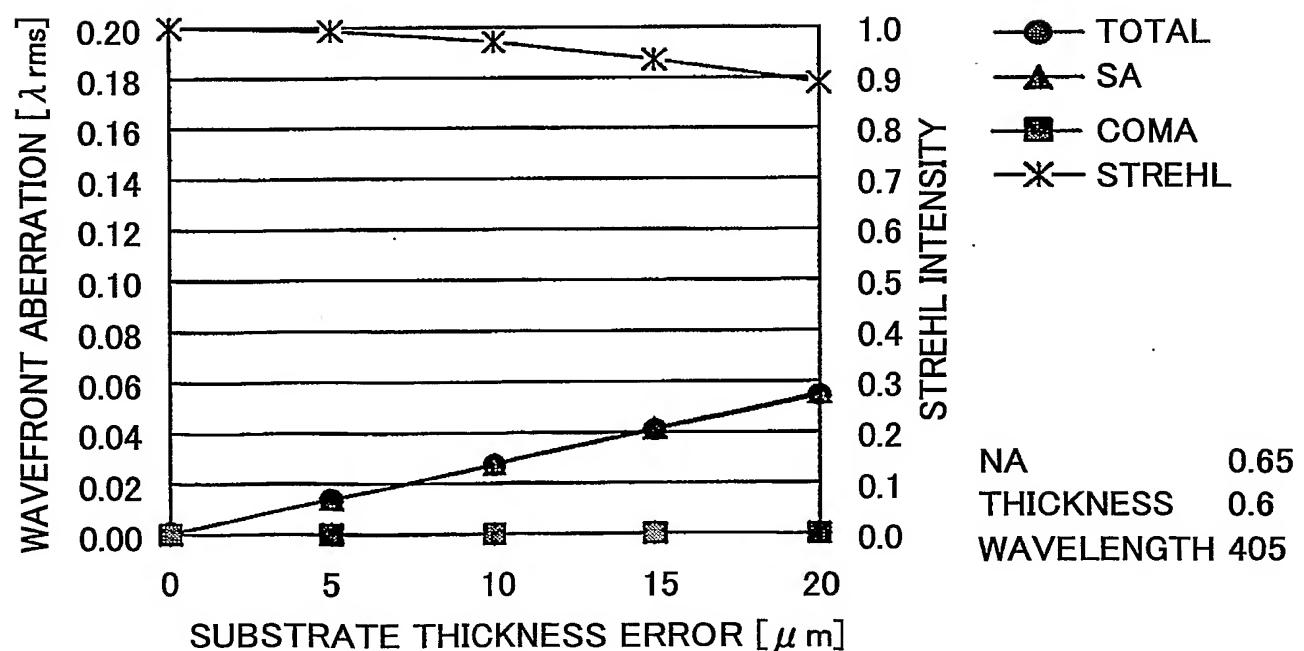


FIG.1B



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FIG.2A

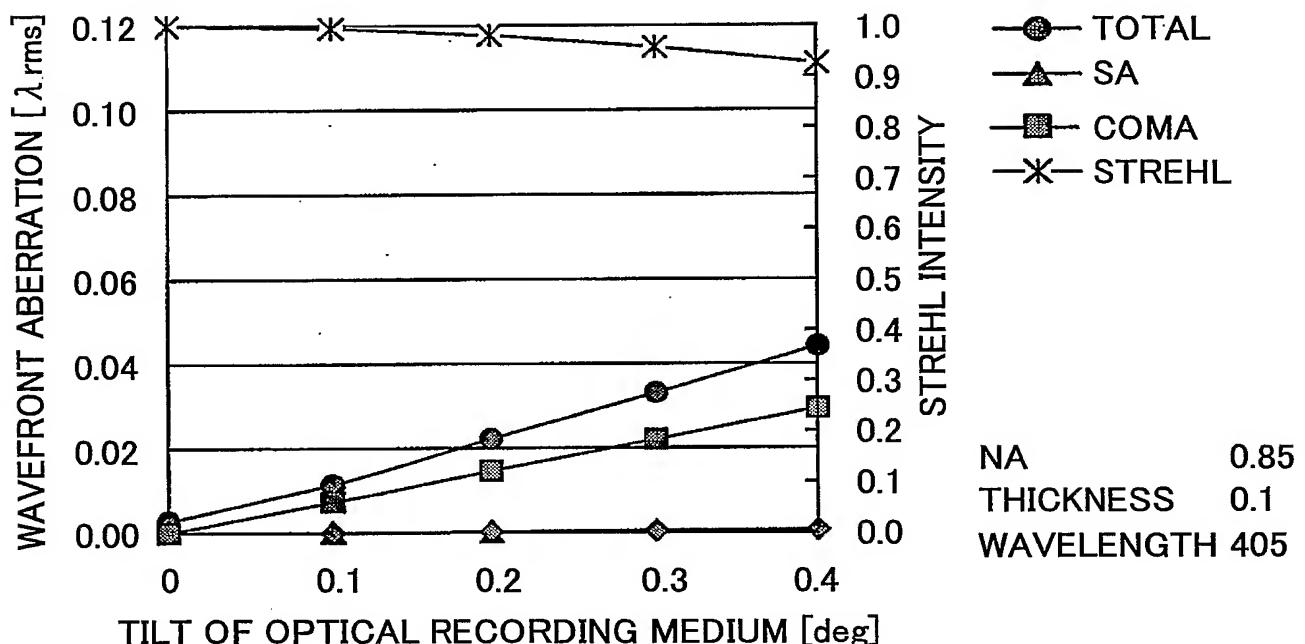
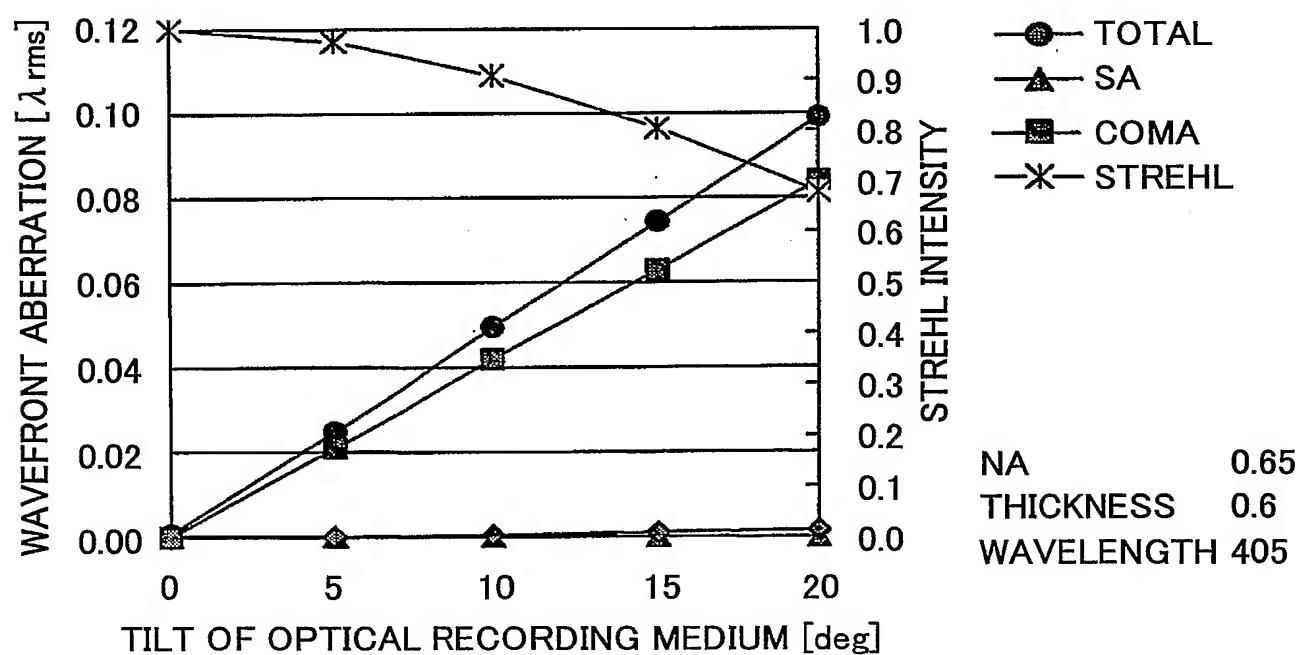


FIG.2B



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FIG.3

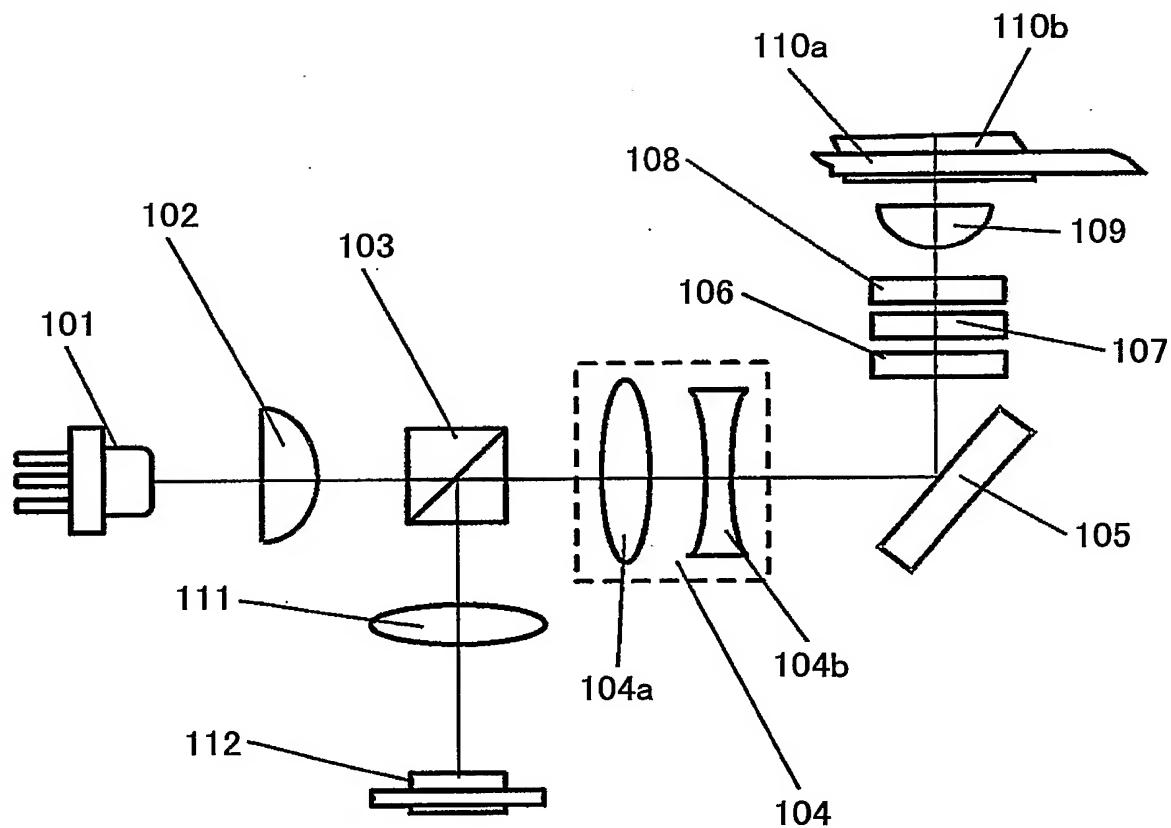


FIG.4

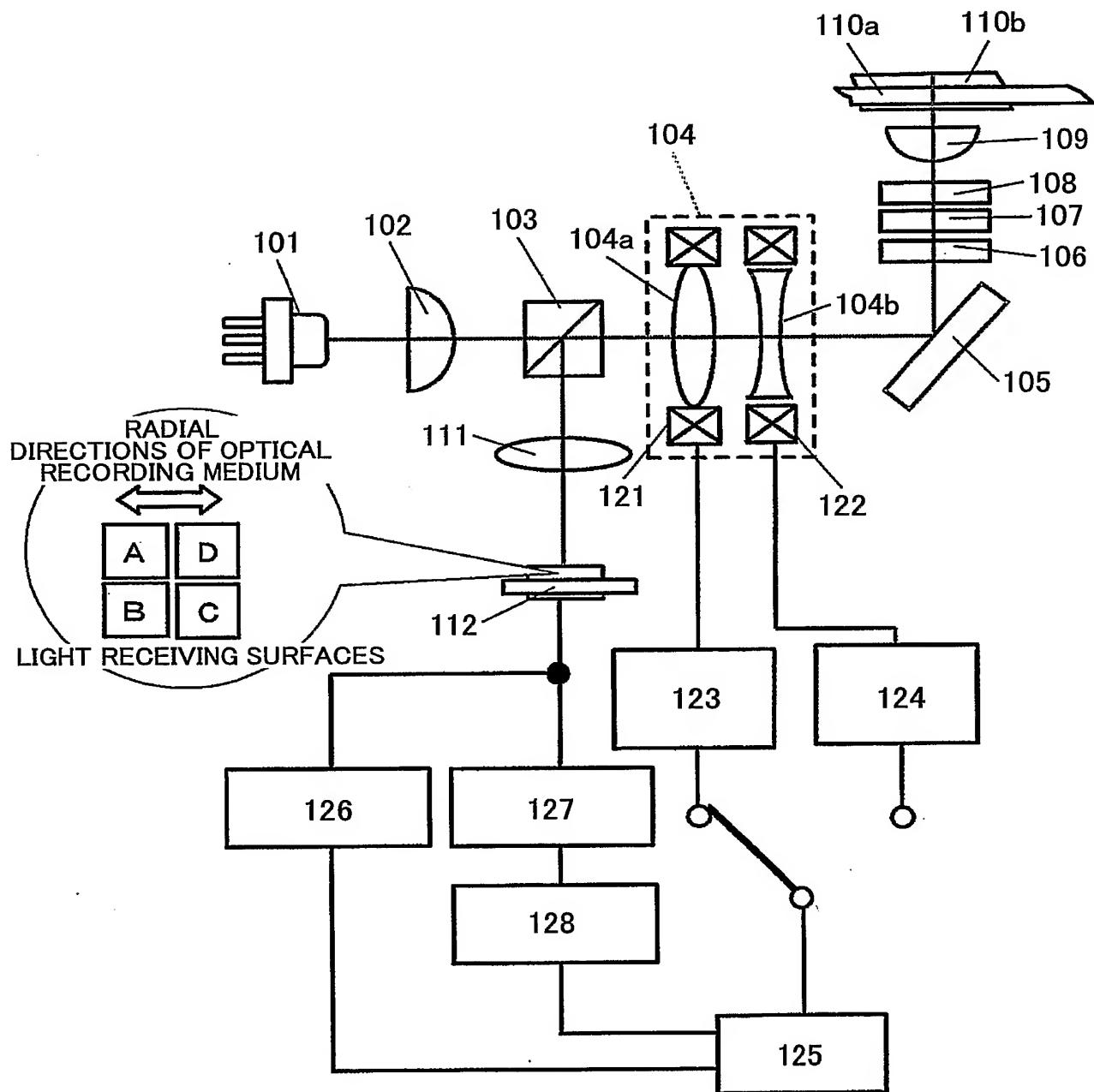
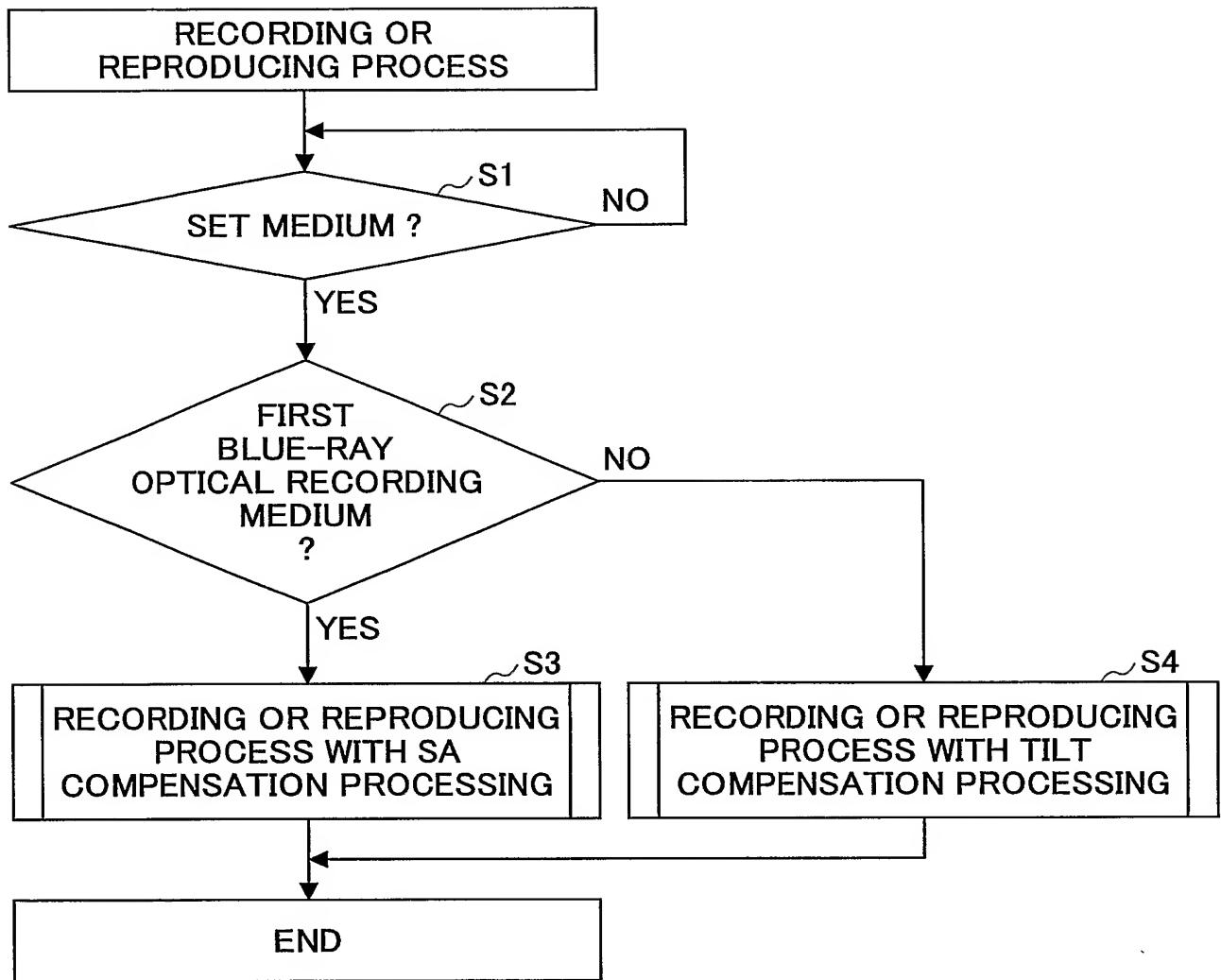
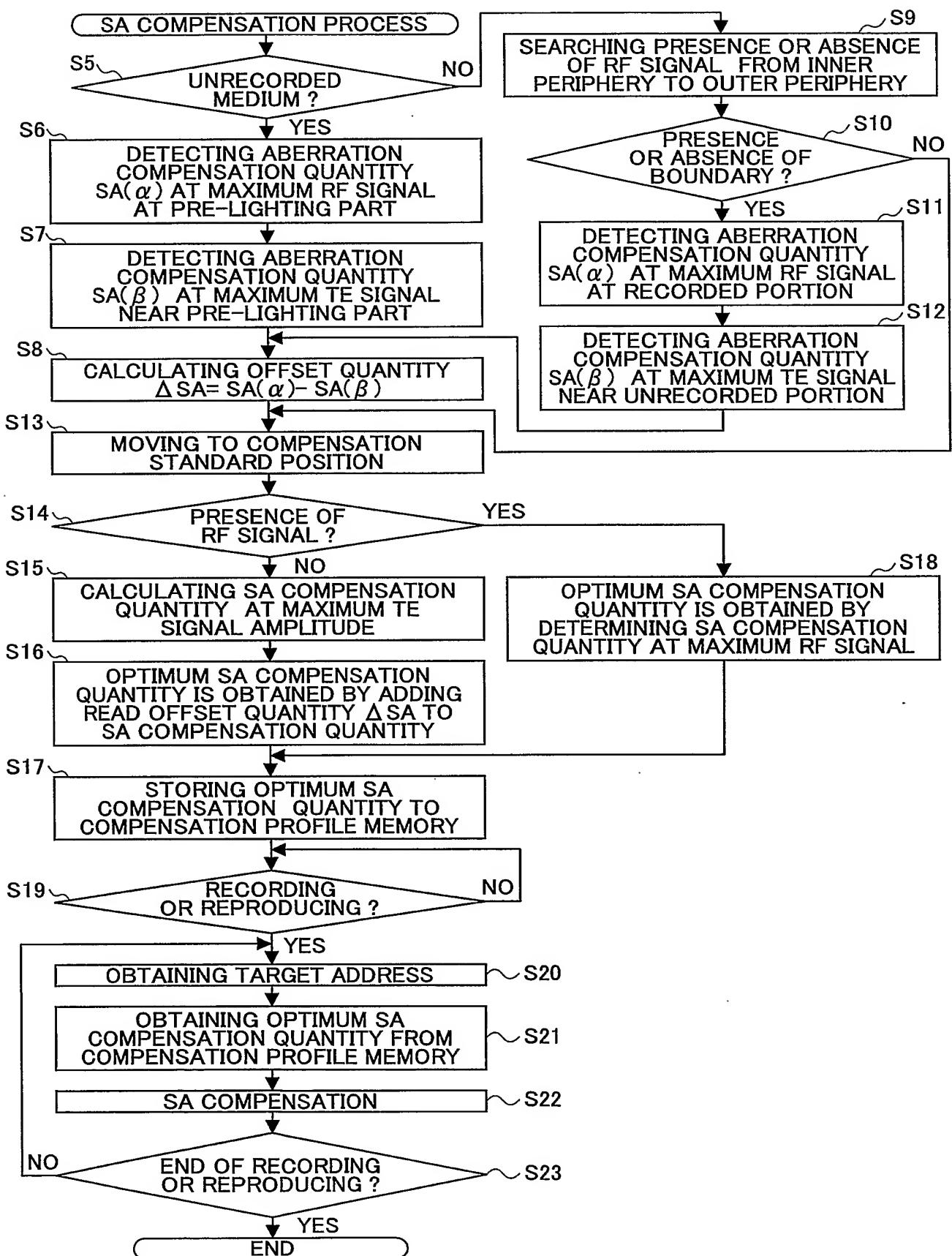


FIG.5



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FIG.6



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FIG.7A

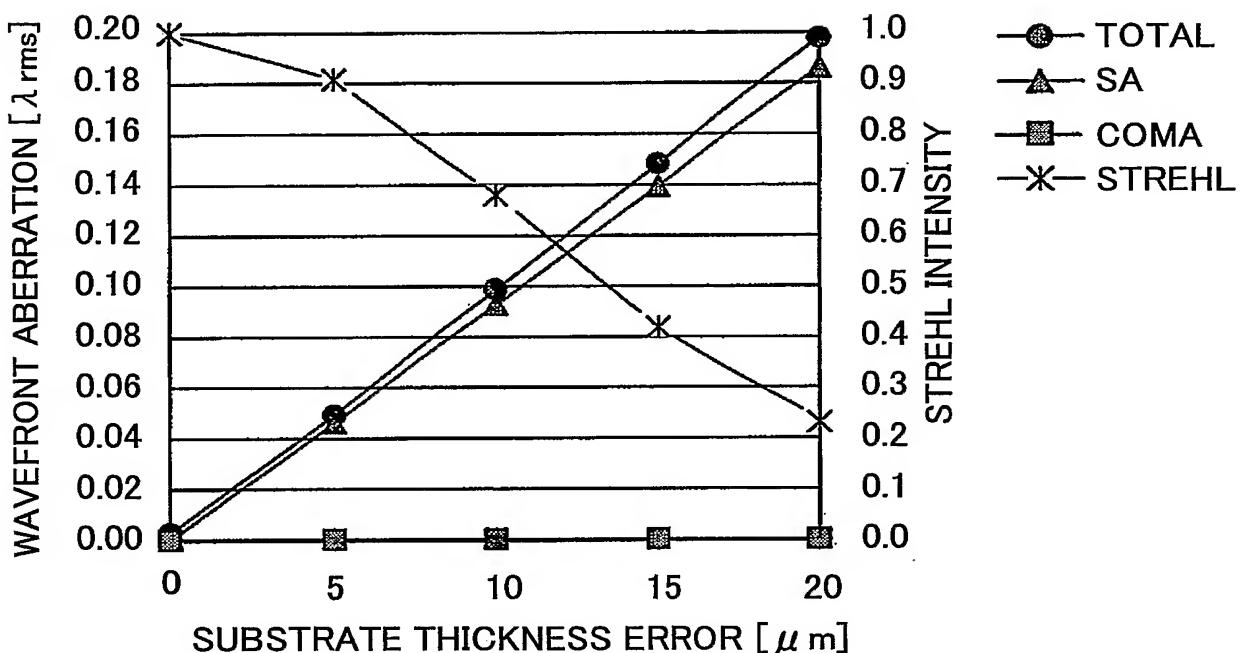
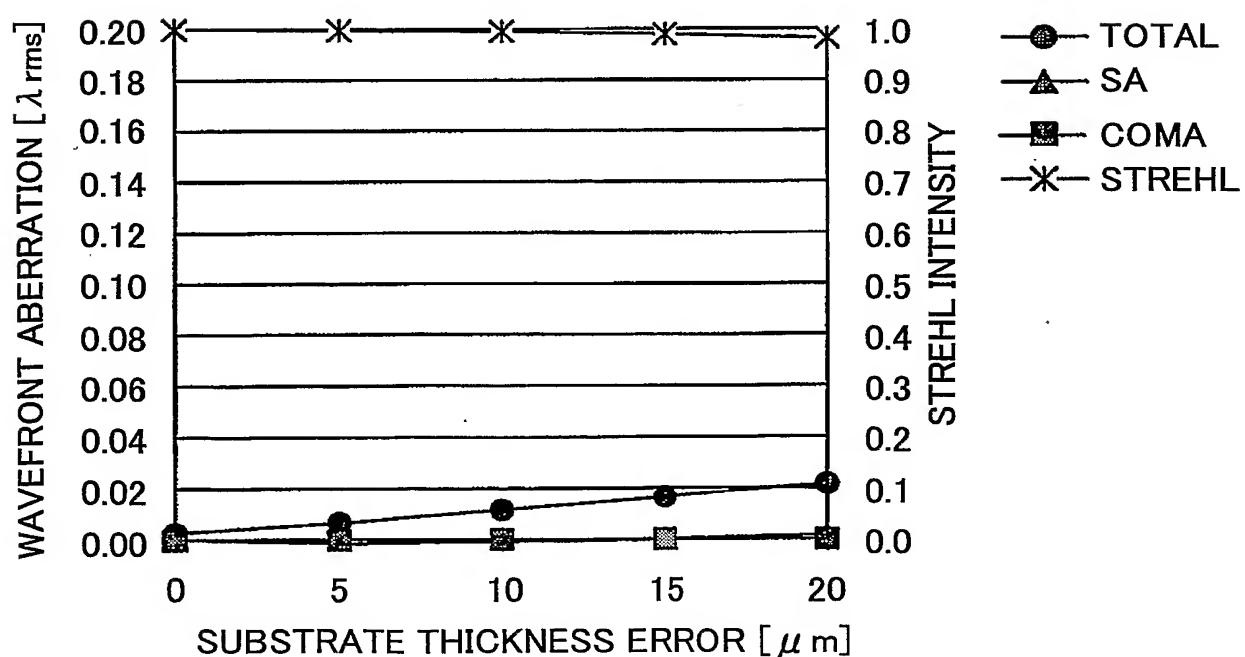


FIG.7B



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FIG.8A

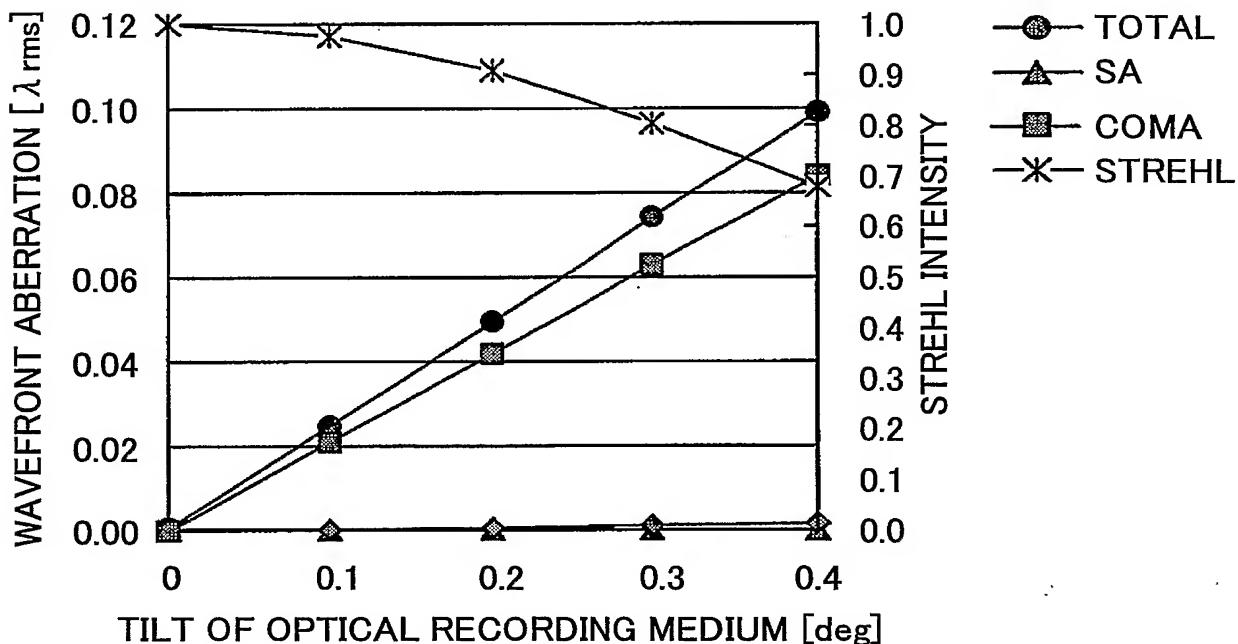
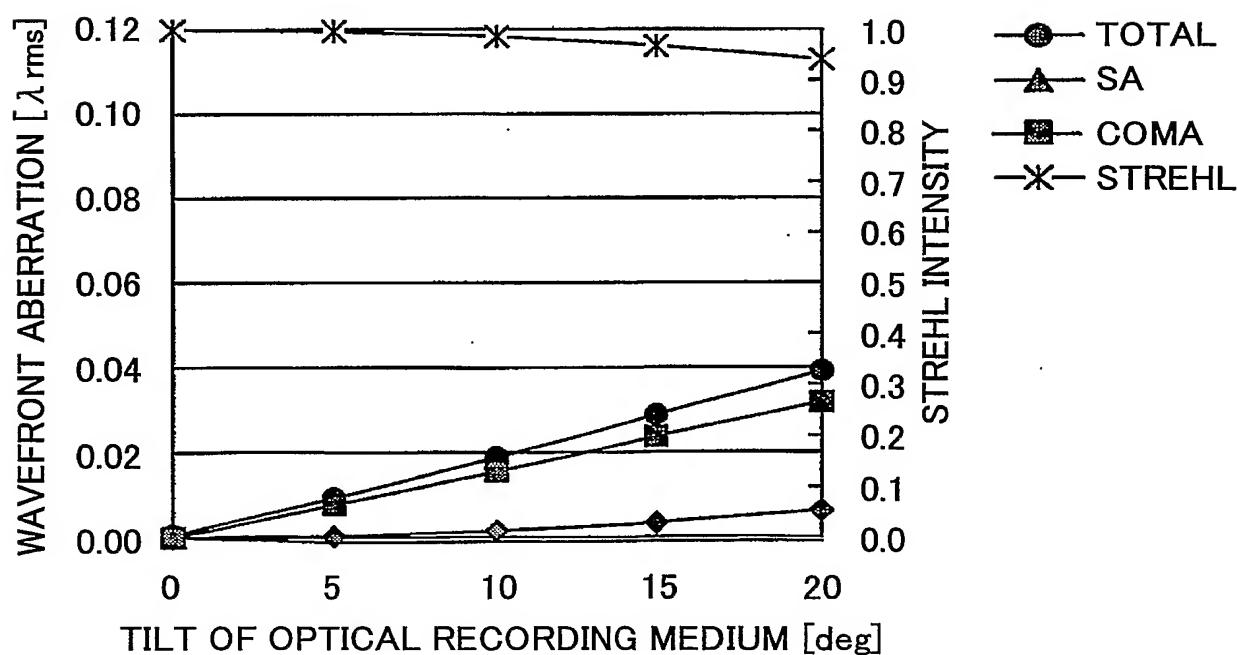


FIG.8B



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FIG.9A

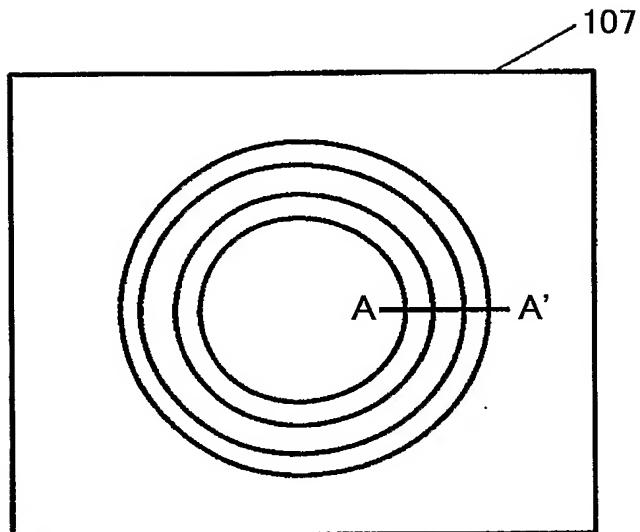


FIG.9B

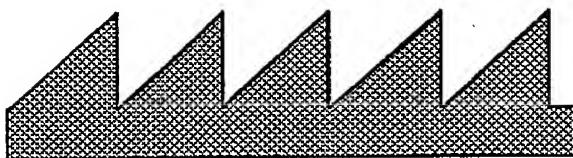
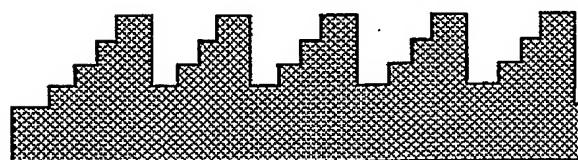


FIG.9C



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FIG.10A

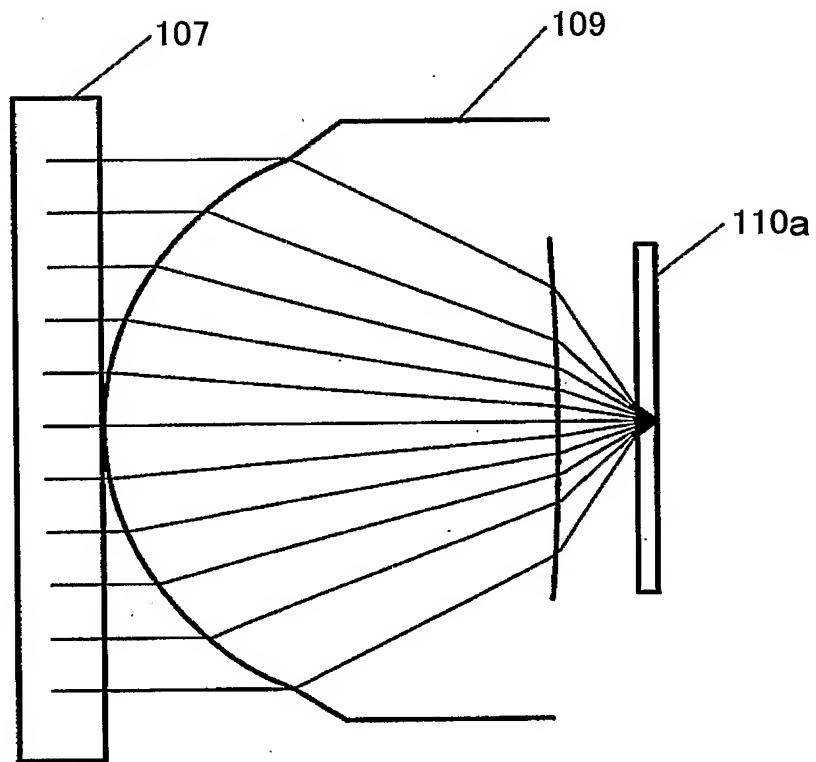
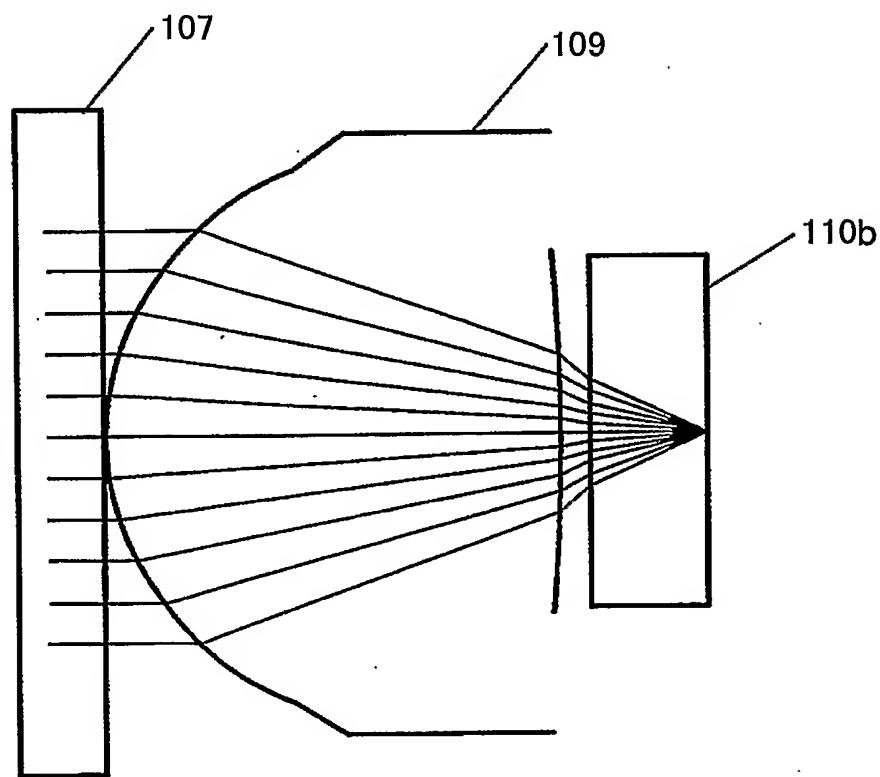
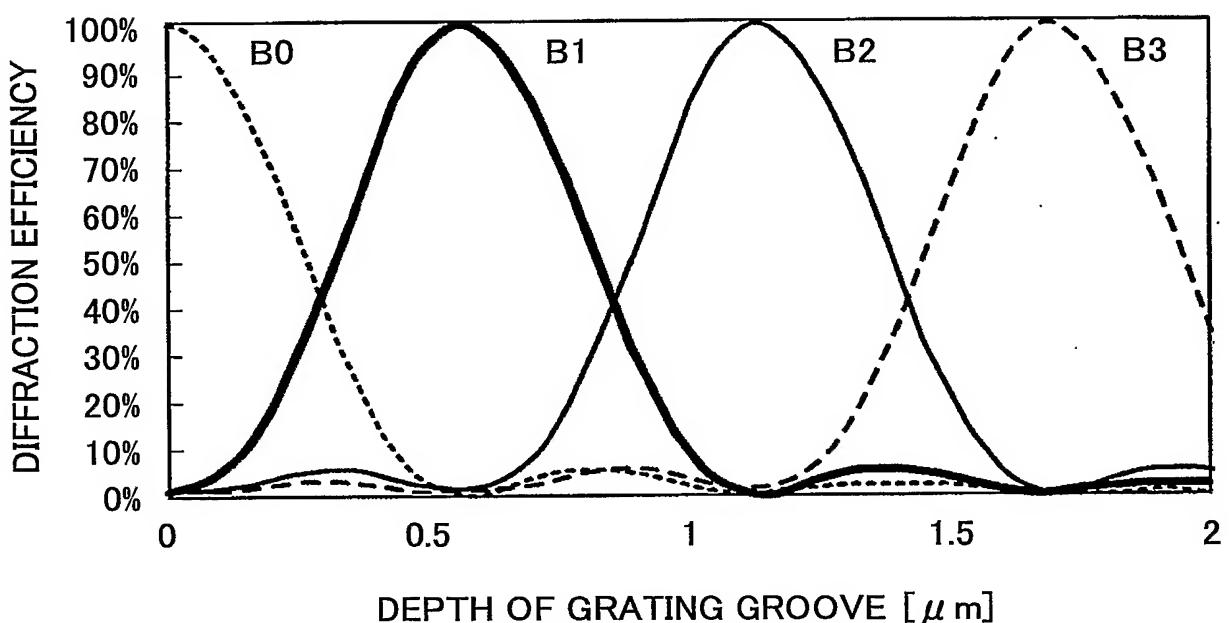


FIG.10B



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FIG.11



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FIG.12A

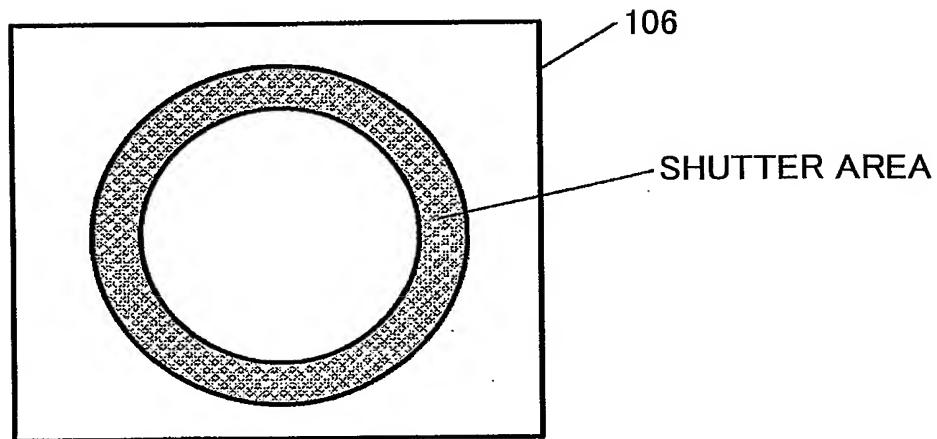


FIG.12B

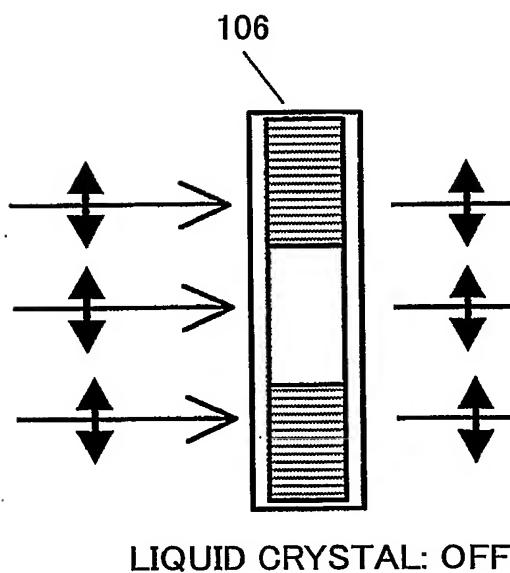
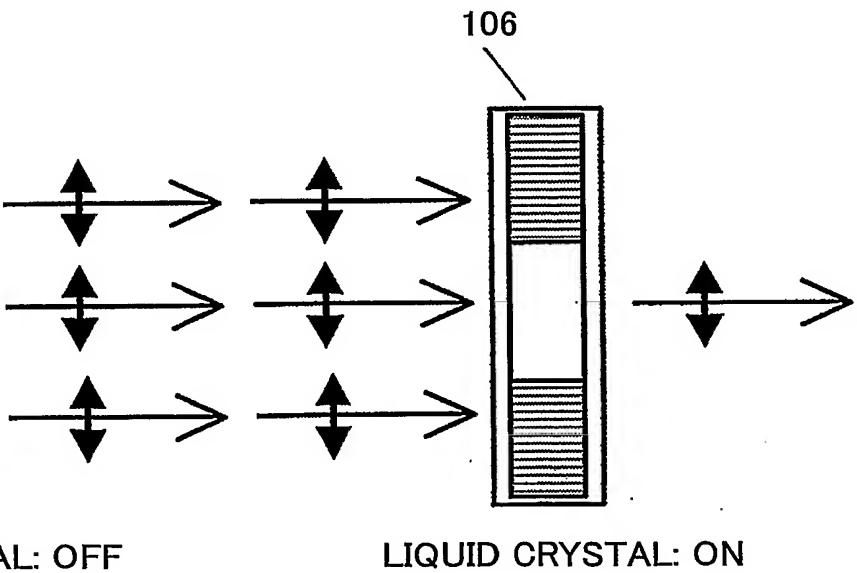


FIG.12C



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FIG.13A

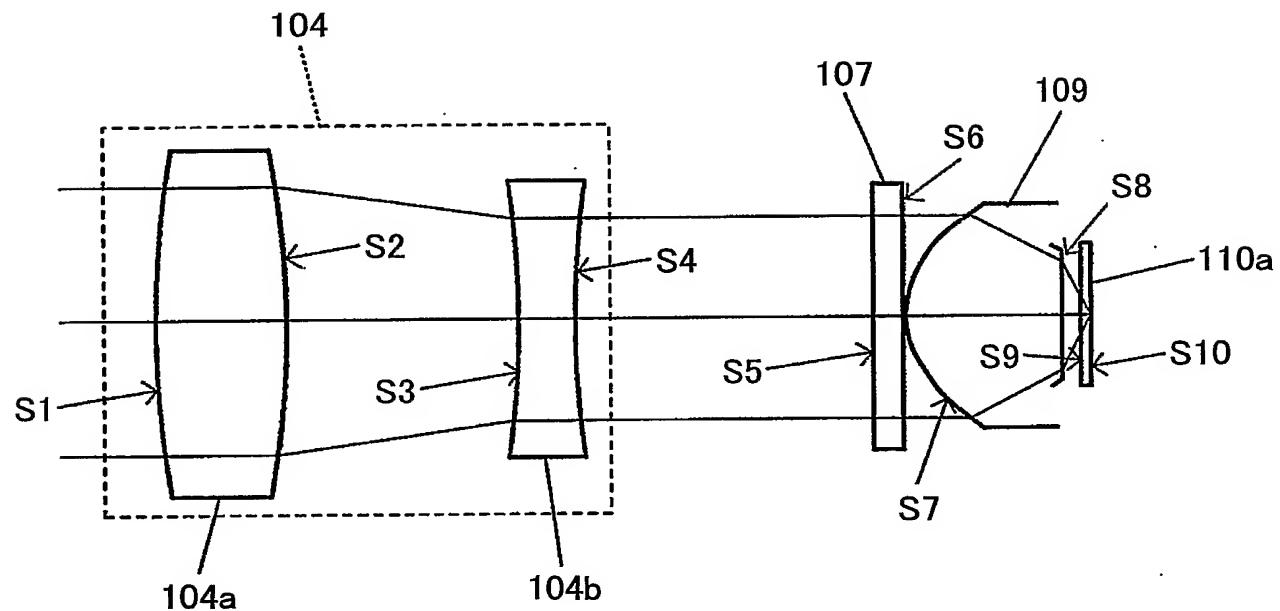
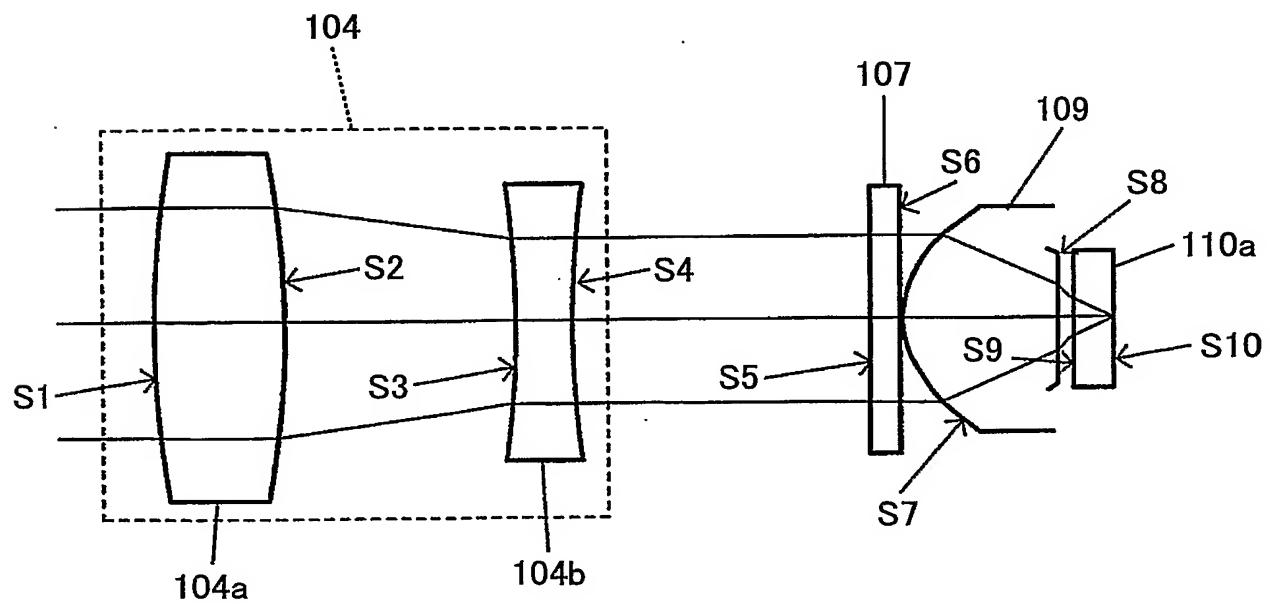


FIG.13B



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## FIG.14

SURFACE	RDY (RADIUS OF CURVATURE)	THI (THICKNESS)	n(REFRACTIVE INDEX):405nm
OBJ	INFINITY	INFINITY	
S1	15.52	2.00	1.53
S2	-24.01	3.55	
S3	-15.67	1.00	1.80
S4	37.12	5.00	
S5 (STO)	INFINITY	0.6	1.72
S6	INFINITY	0.0	
	DIFFRACTION ORDER 0TH ORDER / 1ST ORDER (NOTE 1)		
DIFFRACTION SURFACE COEFFICIENTS C1: $8.0361 \times 10^{-3}$ C2: $-8.8252 \times 10^{-4}$ C3: $-1.0901 \times 10^{-3}$ C4: $-6.8601 \times 10^{-5}$ C5: $-3.8433 \times 10^{-6}$			
S7	1.38	2.38	1.72
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: -0.671973 A: $0.108576 \times 10^{-1}$ B: $0.887024 \times 10^{-3}$ C: $0.615641 \times 10^{-3}$ D: $0.305477 \times 10^{-3}$ E: $-0.235521 \times 10^{-3}$ F: $0.954484 \times 10^{-5}$ G: $0.403964 \times 10^{-4}$ H: $0.599180 \times 10^{-5}$ J: $-0.871198 \times 10^{-5}$		
S8	-4.24	-0.43/0.15 (NOTE 1)	
	ASPHERIC COEFFICIENTS OF LENS SURFACE K: 15.973519 A: 0.265234 B: -0.165180 C: $-7.62341 \times 10^{-1}$ D: 0.119223 E: $0.102416 \times 10^{-1}$ F: $-1.46044 \times 10^{-2}$ G: $-5.28214 \times 10^{-2}$ H: $-0.300544 \times 10^{-2}$ J: $0.292188 \times 10^{-2}$		
S9	INFINITY	0.1/0.6 (NOTE 1)	1.53
S10	INFINITY	0.0	
EPD:ENTRANCE PUPIL DIAMETER(mm)		3.0/2.3 (NOTE 1)	
WL:WAVELENGTH(nm)		405	

NOTE 1. 『/』 MEANS THE ORDER OF FIRST BLUE-RAY OPTICAL RECORDING MEDIUM /SECOND BLUE-RAY OPTICAL RECORDING MEDIUM.

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FIG.15A

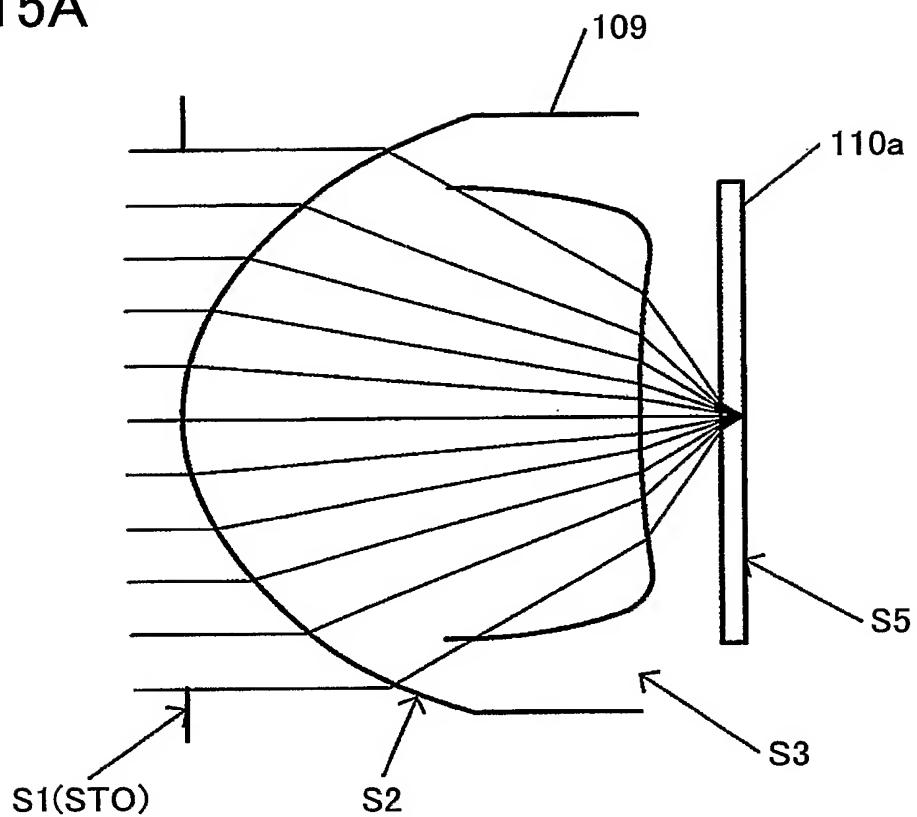
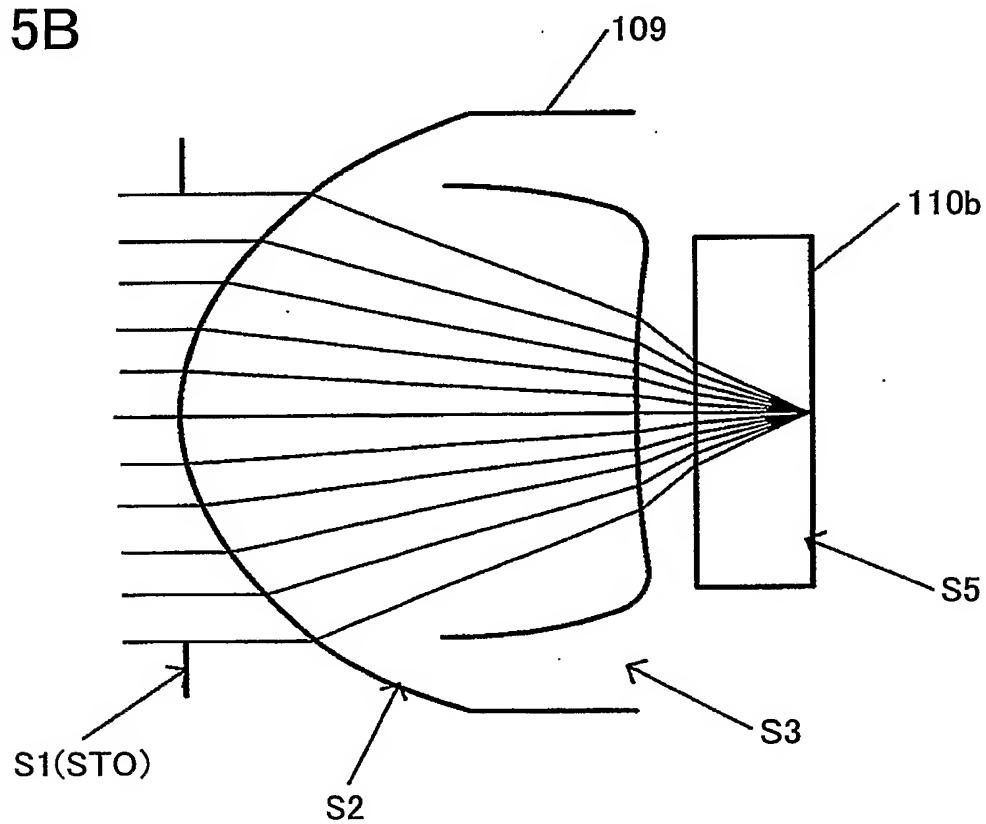


FIG.15B



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## FIG.16

SURFACE	RDY (RADIUS OF CURVATURE)	THI (THICKNESS)	n(REFRACTIVE INDEX):405nm
OBJ	INFINITY	INFINITY	
S1 (STO)	INFINITY	0.6	
	1.38	2.38	1.72
DIFFRACTION ORDER 0TH ORDER / 1ST ORDER (NOTE 1)			
DIFFRACTION SURFACE COEFFICIENTS C1: $2.7423 \times 10^{-2}$ C2: $1.0502 \times 10^{-3}$ C3 : $-5.9391 \times 10^{-4}$ C4: $-3.7025 \times 10^{-4}$ C5: $1.2757 \times 10^{-4}$			
ASPHERIC COEFFICIENTS OF LENS SURFACE K: $-6.6426 \times 10^{-1}$ A: $1.0604 \times 10^{-2}$ B: $2.1601 \times 10^{-3}$ C: $6.0889 \times 10^{-5}$ D: $4.8057 \times 10^{-4}$ E: $-7.7885 \times 10^{-5}$ F: $4.7808 \times 10^{-5}$			
	-4.80	-0.43/0.29 (NOTE 1)	
ASPHERIC COEFFICIENTS OF LENS SURFACE K: 12.516971 A: 0.279855 B: -.141274 C: $-2.250439 \times 10^{-1}$ D: 0.108911 E: $.801930 \times 10^{-1}$ F: $-1.146045 \times 10^{-2}$ G: $.528214 \times 10^{-2}$ H: $.300544 \times 10^{-2}$ J: $0.292188 \times 10^{-2}$			
S4	INFINITY	0.1/0.6 (NOTE 1)	1.53
S5	INFINITY	0.0	
EPD:ENTRANCE PUPIL DIAMETER(mm)		3.0/2.3 (NOTE 1)	
WL:WAVELENGTH(nm)		405	

NOTE 1. 『/』 MEANS THE ORDER OF FIRST BLUE-RAY OPTICAL RECORDING MEDIUM /SECOND BLUE-RAY OPTICAL RECORDING MEDIUM.

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FIG.17

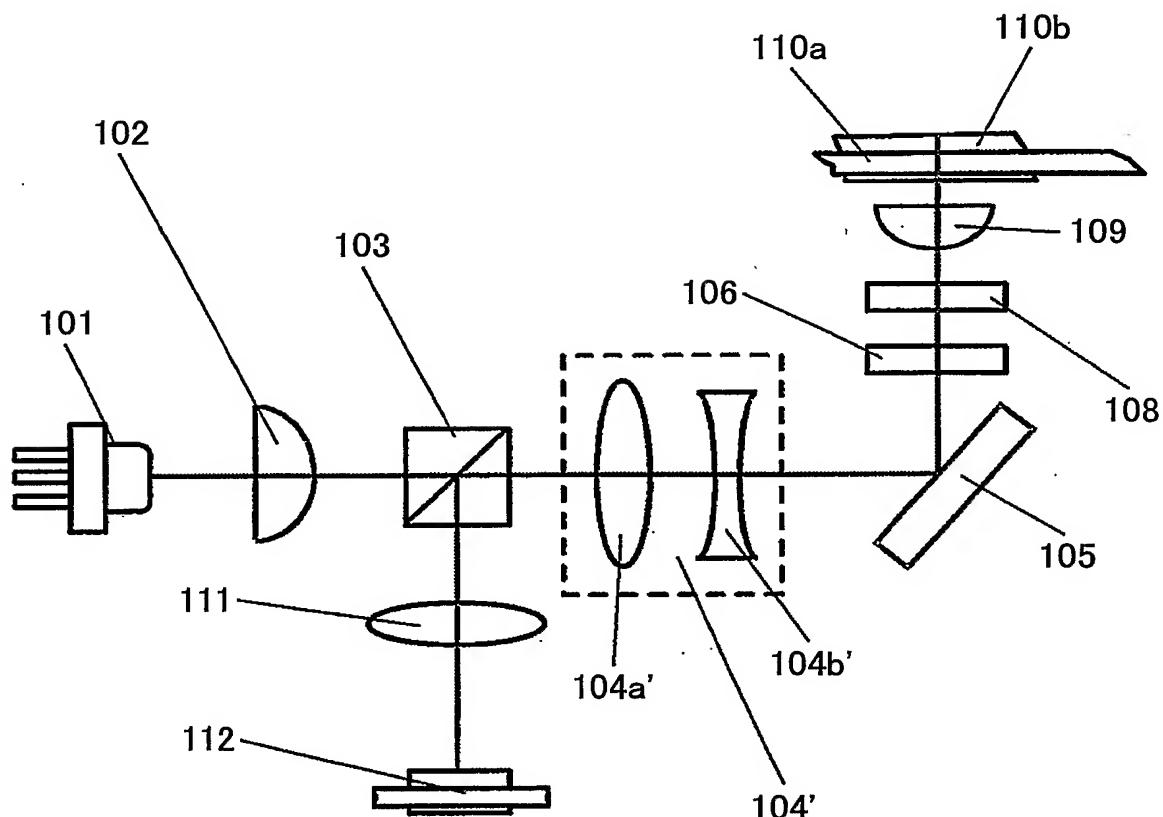
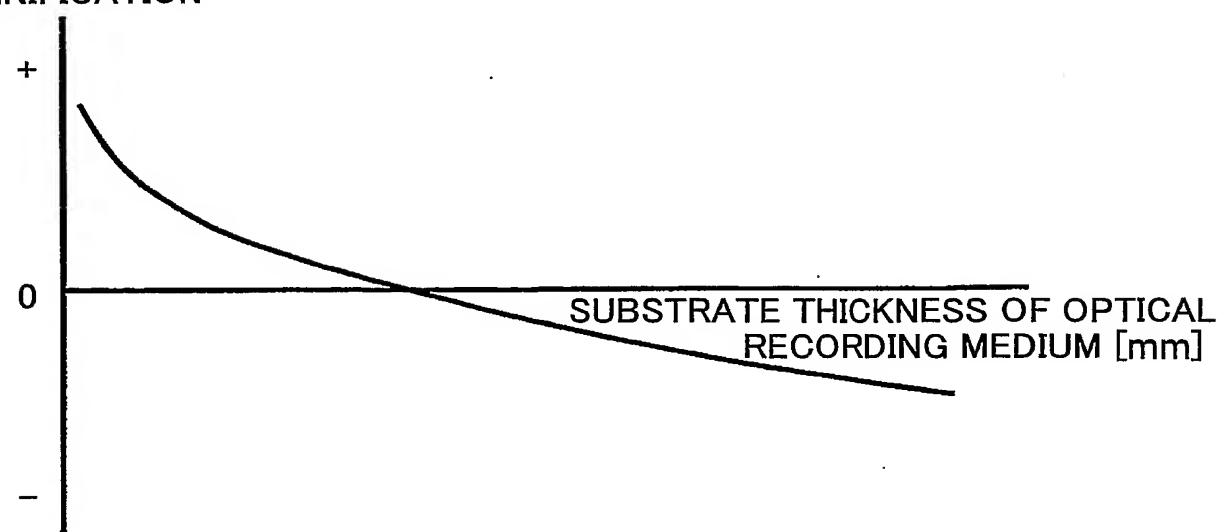


FIG.18

MAGNIFICATION



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FIG.19A

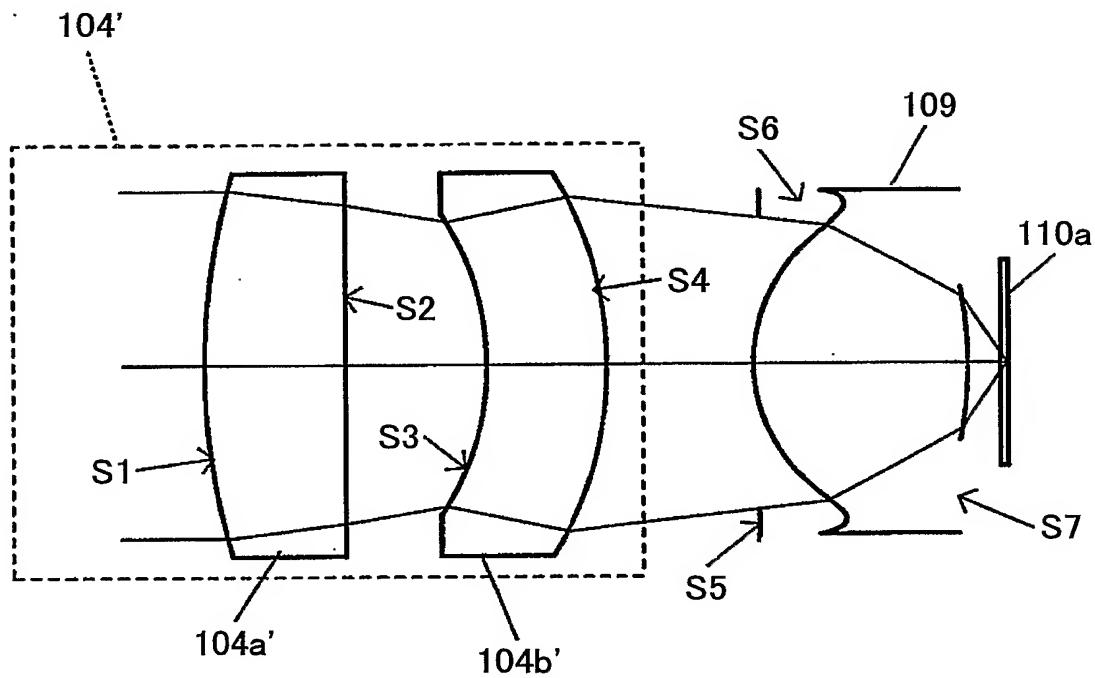
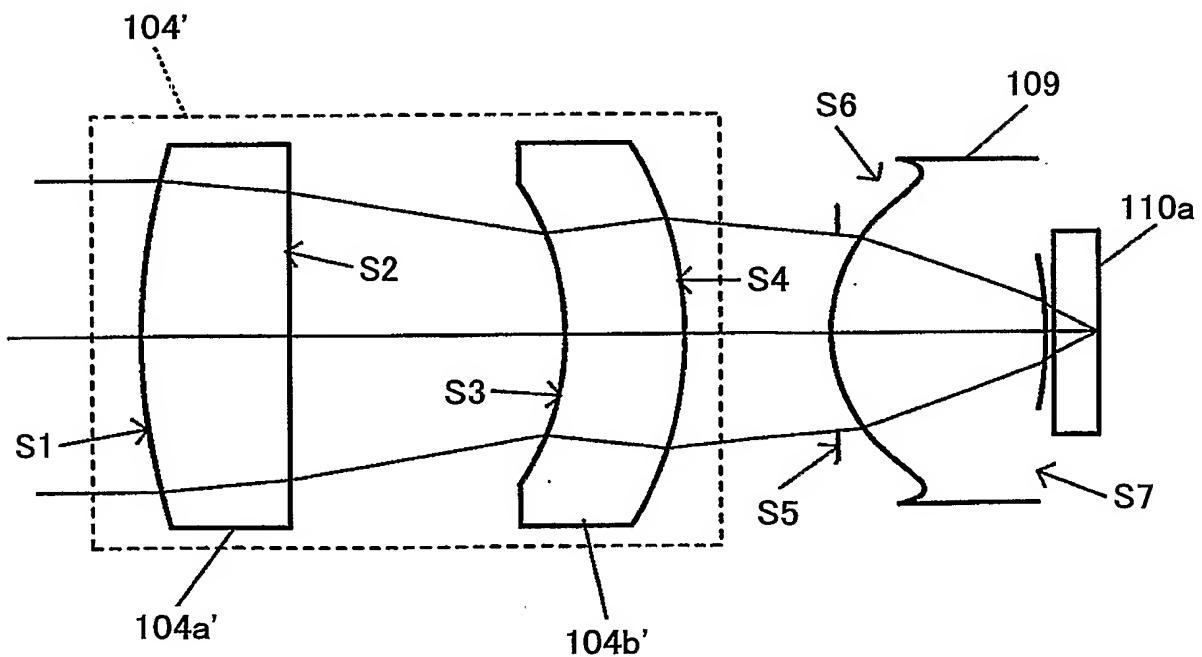


FIG.19B



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## FIG.20

SURFACE	RDY (RADIUS OF CURVATURE)	THI (THICKNESS)	n(REFRACTIVE INDEX):405nm
OBJ	INFINITY	INFINITY	
S1	7.56	2.0	1.53
ASPHERIC COEFFICIENTS OF LENS SURFACE			
K:0.972983 A: $0.371207 \times 10^{-3}$ B: $-0.478667 \times 10^{-4}$ C : $-0.901945 \times 10^{-5}$ D: $-0.814374 \times 10^{-6}$			
S2	40.91	2/4.1 (NOTE 1)	
ASPHERIC COEFFICIENTS OF LENS SURFACE			
K:-76.180141 A: $-0.551113 \times 10^{-3}$ B: $-0.604159 \times 10^{-4}$ C : $-0.264014 \times 10^{-4}$ D: $0.307055 \times 10^{-7}$			
S3	-3.54	1.7	1.80
ASPHERIC COEFFICIENTS OF LENS SURFACE			
K:-0.031141 A: $0.286777 \times 10^{-3}$ B: $-0.248176 \times 10^{-3}$ C : $-0.146269 \times 10^{-4}$ D: $-0.160400 \times 10^{-4}$			
S4	-4.35	0.0	
ASPHERIC COEFFICIENTS OF LENS SURFACE			
K:-0.751196 A: $-0.557062 \times 10^{-4}$ B: $-0.818406 \times 10^{-4}$ C : $-0.451735 \times 10^{-4}$ D: $0.195625 \times 10^{-5}$			
S5 (STO)	INFINITY	0.6	1.72
S6	1.90	2.90	1.72
ASPHERIC COEFFICIENTS OF LENS SURFACE			
K:-0.638807 A: $0.515357 \times 10^{-2}$ B: $0.536542 \times 10^{-3}$ C : $0.155822 \times 10^{-4}$ D: $0.693345 \times 10^{-5}$ E: $-0.144620 \times 10^{-4}$ F : $-0.464699 \times 10^{-7}$ G: $0.607353 \times 10^{-6}$ H: $0.816724 \times 10^{-7}$ J : $-0.863344 \times 10^{-7}$			
S7	-5.49	0.51/0.12 (NOTE 1)	
ASPHERIC COEFFICIENTS OF LENS SURFACE			
K:27.747443 A:0.181893 B: $-0.209173$ C : 0.152146 D: $-0.292109 \times 10^{-1}$ E: $0.432555 \times 10^{-3}$ F : $-0.346960 \times 10^{-4}$ G: $-0.705877 \times 10^{-4}$ H: $-0.225917 \times 10^{-4}$ J : $0.123545 \times 10^{-4}$			
S8	INFINITY	0.1/0.6 (NOTE 1)	1.53
S9	INFINITY	0.0	
EPD:ENTRANCE PUPIL DIAMETER (mm)		3.8/2.3 (NOTE 1)	
WL:WAVELENGTH (nm)		405	

NOTE 1. 1/2 MEANS THE ORDER OF FIRST BLUE-RAY OPTICAL RECORDING MEDIUM /SECOND BLUE-RAY OPTICAL RECORDING MEDIUM.

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FIG.21

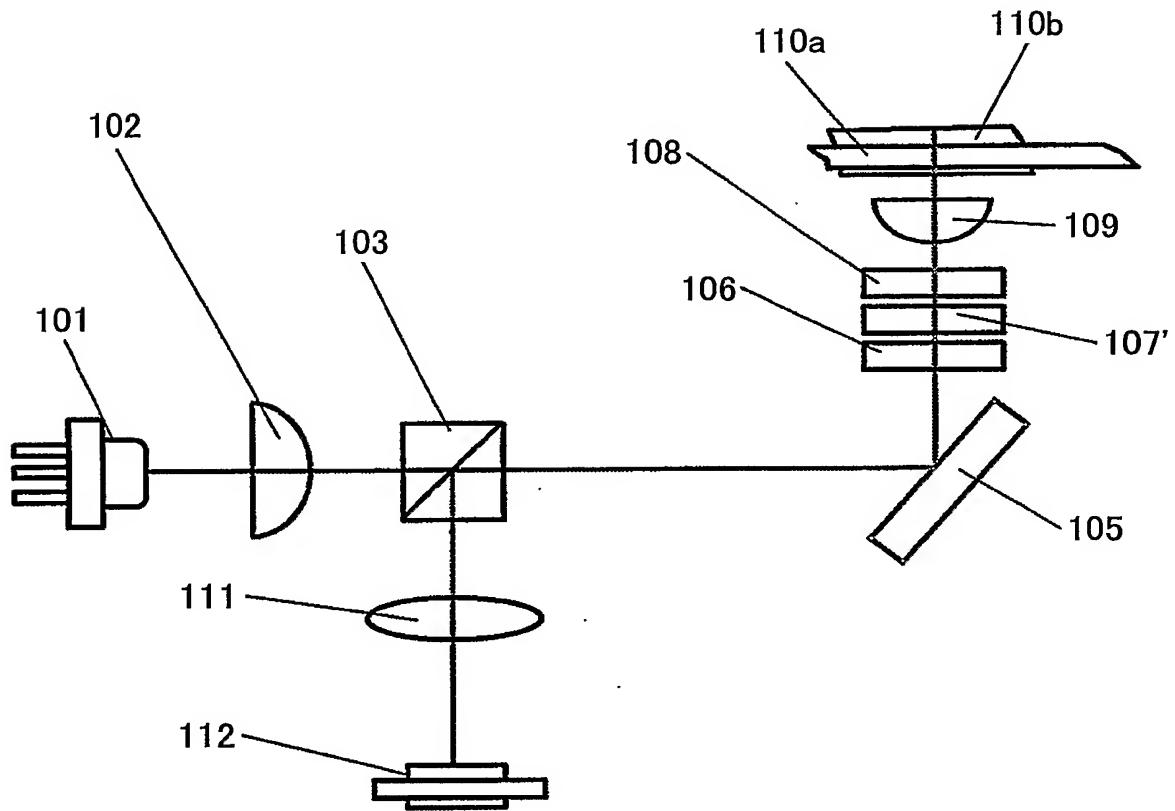
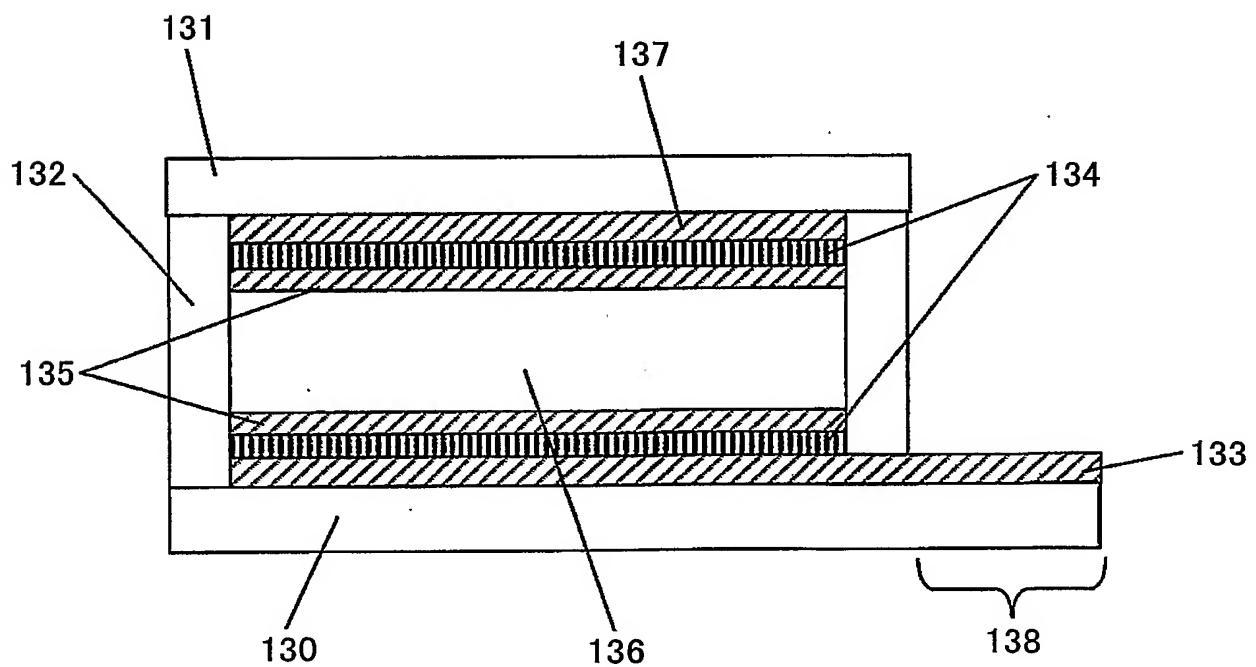
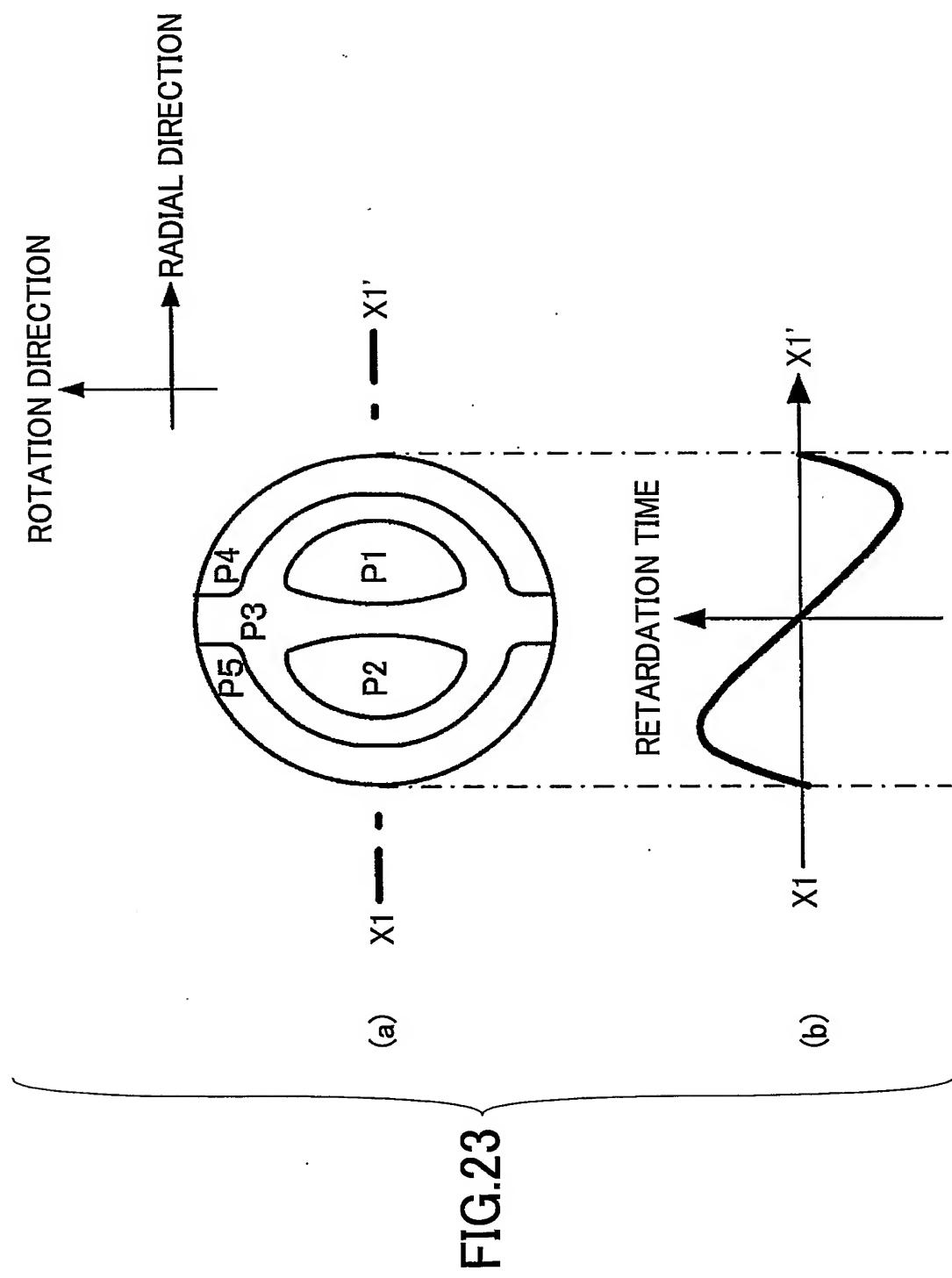
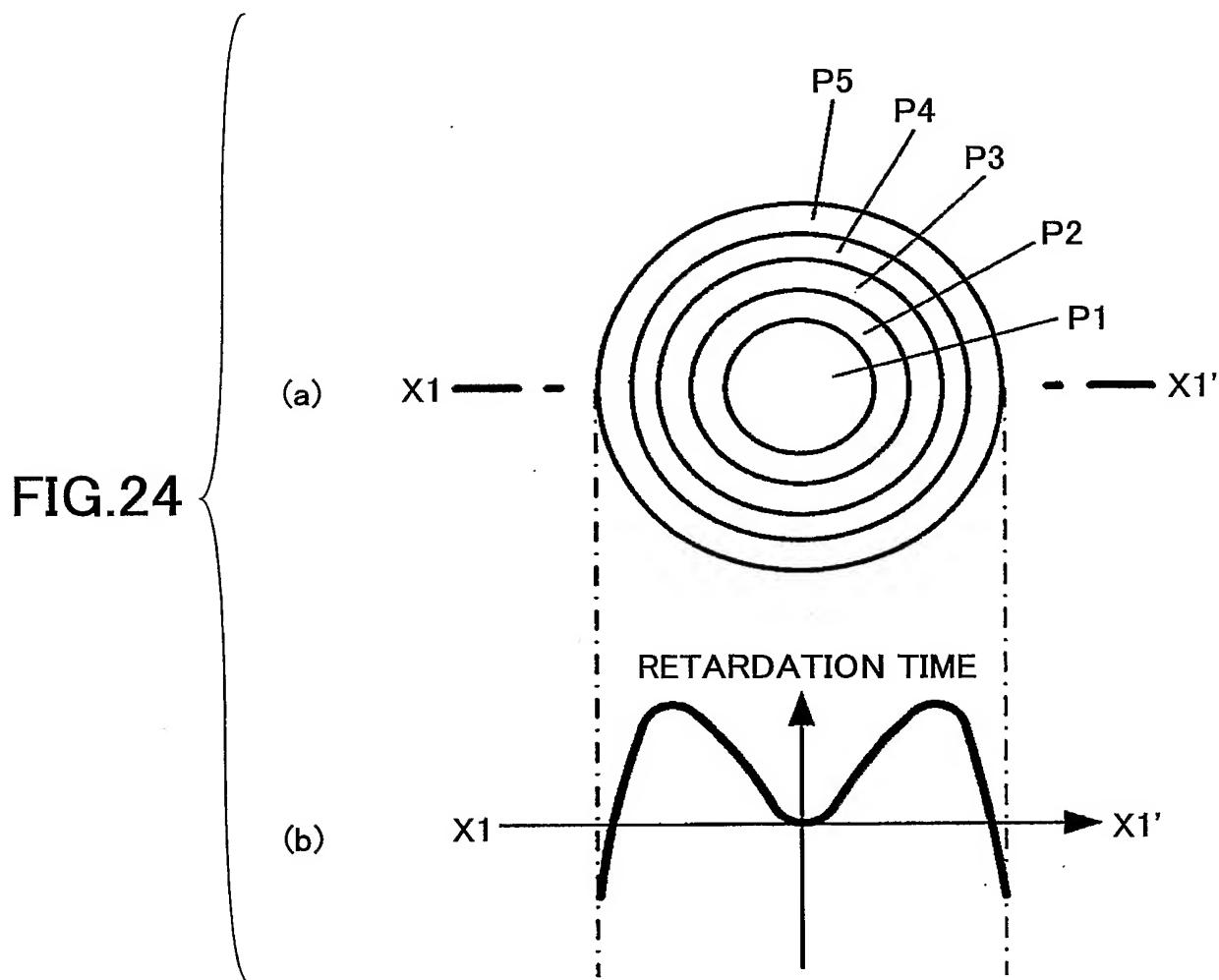


FIG.22



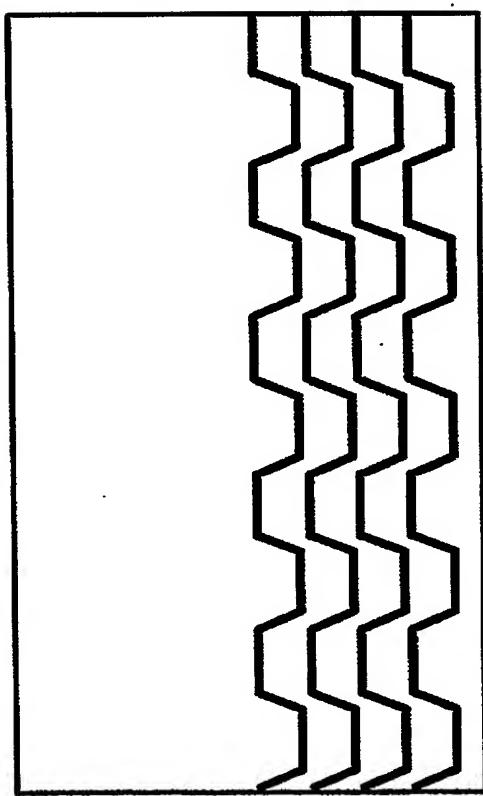


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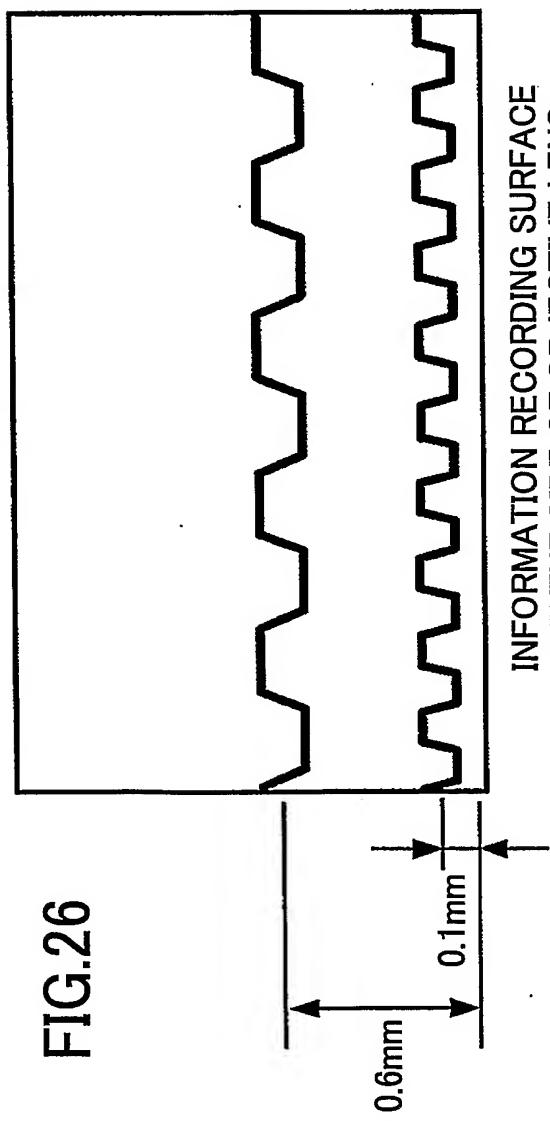
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FIG.25



INFORMATION RECORDING SURFACE  
AT THE SIDE OF OBJECTIVE LENS

FIG.26



INFORMATION RECORDING SURFACE  
AT THE SIDE OF OBJECTIVE LENS

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FIG.27

